



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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January 26, 2004

Alan Resnick

Cummins Engine Company - Midrange Engine Plant

P.O. Box 3005

Columbus, Indiana 47202

Re: Review Request No. 005-17846

Plant ID: 005-00047

Dear Mr. Resnick:

Cummins Engine Company - Midrange Engine Plant was issued a Part 70 Operating Permit (T 005-7672-00047) on May 5, 2000. A Minor Source Modification (005-12747-00047) was issued on November 8, 2000 to enable the source to use more coatings in the paint spray booth, known as EU-P01. On August 18, 2003, IDEM, OAQ, received your letter which indicated that the source is utilizing different coatings in the following facility:

One (1) paint spray booth, known as EU-P01, installed in October 1991, equipped with three (3) electrostatic air atomization applicators and dry filters for overspray control, exhausted to stack S01, maximum capacity: 37 engines per hour.

The new coatings comply with all conditions of the Part 70 Operating Permit T 005-7672-00047 and result in a net decrease in the potential to emit volatile organic compounds (VOC) of twenty-five (25) tons per year. The increase in the potential to emit  $PM_{10}$  and hazardous air pollutants (HAPs) are below the exemption levels of five (5) tons per year for  $PM_{10}$ , ten (10) tons per year for a single HAP and twenty-five (25) tons per year for the combination of all HAPs. Calculations showing the change in surface coating emissions are provided on pages 1 and 2 of 2 of Appendix A. Note that the potential to emit of xylene, a hazardous air pollutant (HAP), decreases approximately four (4) tons per year.

The changes in the potential to emit that result from the use of different coatings in the paint spray booth, EU-P01, do not change the source status pursuant to 326 IAC 2-2, Prevention of Significant Deterioration (PSD). Since the coatings used in the paint spray booth EU-P01 are not specified in any of the Section D conditions of the Part 70 Operating Permit, no changes to the permit are necessary.

If you have any questions on this matter, please contact Stephanie A. Ryan, MES Co., Inc., at 165 Broadway, Amityville, New York 11701, or by telephone at 631-691-3395, or in Indiana at 1-800-451-6027 (ext 631-691-3395). Send a copy of all written correspondence to Duane Van Laningham at Indiana Department of Environmental Management (IDEM), Office of Air Quality, Permits Section, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015.

Sincerely,

Original Signed by Paul Dubenetzky  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

SAR:MES

cc: File - Bartholomew County  
Bartholomew County Health Department  
Air Compliance - Vaughn E. Ison  
Permit Administration - File  
Technical Support and Modeling - Michele Boner

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

**Company Name: Cummins Engine Company - Midrange Engine Plant**  
**Address City IN Zip: I-65 at CR 450S, Columbus, Indiana 47201**  
**Permit Review: 005-17846**  
**Plt ID: 005-00047**  
**Reviewer: Stephanie A. Ryan**  
**Date: August 18, 2003**

**"New" Surface Coating Materials**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>EU-P01</b>																
Clear High-Solids Ura-Zen, Part A	8.191	38.44%	0.00%	38.4%	0.00%	43.8%	0.055	37.5	3.15	3.15	6.49	156	28.4	11.4	7.19	75.0%
High Solids Ura-Zen Catalyst, Part B	8.83	28.31%	0.00%	28.3%	0.00%	34.45%	0.018	37.5	2.50	2.50	1.69	40.5	7.39	4.68	7.26	75.0%
Titanium Black High Solids Engine Enamel	9.59	36.29%	0.00%	36.3%	0.00%	50.51%	0.056	37.5	3.48	3.48	7.31	175	32.0	14.0	6.89	75.0%
Xylene Solvent	7.26	100%	0.00%	100%	0.00%	0.00%	0.010	37.5	7.26	7.26	2.72	65.3	11.9	0.00	N/A	100%

PM Control Efficiency: 99.0%

**State Potential Emissions**

**Add worst case coating to all solvents**

**Uncontrolled 18.2 437 79.8 30.1**  
**Controlled 18.2 437 79.8 0.301**

**"Old" Surface Coating Materials Pursuant to MSM 005-12747-00047, issued on November 8, 2000.**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>EU-P01</b>																
MS Clear Coat	7.97	54.0%	0.00%	54.0%	0.00%	48.3%	0.085	37.5	4.30	4.30	13.7	329	60.1	12.8	8.91	75.0%
Acid Catalyst Solution	9.83	25.0%	0.00%	25.0%	0.00%	63.6%	0.003	37.5	2.46	2.46	0.28	6.64	1.21	0.908	3.86	75.0%
H/S Black Topcoat	9.98	35.1%	0.00%	35.1%	0.00%	52.9%	0.056	37.5	3.50	3.50	7.36	177	32.2	14.9	6.62	75.0%
Xylene Solvent	7.26	100%	0.00%	100%	0.00%	0.00%	0.010	37.5	7.26	7.26	2.72	65.3	11.9	0.00	N/A	100%

PM Control Efficiency: 99.0%

**State Potential Emissions**

**Add worst case coating to all solvents**

**Uncontrolled 24.1 578 105 28.6**  
**Controlled 24.1 578 105 0.286**

**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used